

217/782-2113

"REVISED"  
TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT  
and  
TITLE I PERMIT<sup>1</sup>

PERMITTEE

National Castings, Inc.  
Attn: Jerry Farmer  
110 North 25th Avenue  
Melrose Park, Illinois 60160

Application No.: 96030111                      I.D. No.: 031186ABF  
Source Location: 110 North 25th Avenue, Melrose Park, Cook County  
Operation of: Steel Foundry  
Date Received: March 7, 1996  
Date Issued: January 26, 2000                      Expiration Date<sup>2</sup>: January 26, 2005  
Responsible Official: Jerry Farmer, Environmental/Loss Control Manager

This permit is hereby granted to the above-designated Permittee to OPERATE a Steel Foundry, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

Revision Date Received: May 16, 2000  
Revision Date Issued: July 6, 2000  
Purpose of Revision: Minor Modification

This minor modification is accomplished to increase the allowable production and emission limits at the phenolic Hot Box (HBC-1) and Furan Warm Box (WBC-1) core making operations. The increase will include a change in the binder-to-sand ration that will change each operations VOM emission factor. IN addition, the facility wished to re-institute the use of a Core Box Coating at the Kloster and Palmer coremaking operations. Core Box Coating will no longer be used at HBC-1 and WBC-1. Lastly, the facility has eliminated the use of the solvent-based Core Wash (CW-1) materials, and has replaced those materials with a water-based Zircon wash. These proposed modifications will result in a net decrease of VOM emissions of 8.64 tons/year.

This document only contains those portions of the entire CAAPP permit that have been revised as a result of this permitting action. If a conflict exists between this document and previous versions of the CAAPP permit, this document supercedes those terms and conditions of the permit for which the conflict exists. The previous permit issued !variable date! is incorporated herein by reference.

Please attach a copy of this amendment and the following revised pages to the front of the most recently issued entire permit.

Page 2

If you have any questions concerning this permit, please contact Michael J. Knobloch at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

DES:MJK:psj

cc: Illinois EPA, FOS, Region 1  
USEPA

<sup>1</sup> This permit may contain terms and conditions which address the applicability, and compliance if determined applicable, of Title I of the CAA and regulations promulgated thereunder, including 40 CFR 52.21 - federal PSD and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within this permit.

<sup>2</sup> Except as provided in Condition 8.7 of this permit.

## TABLE OF CONTENTS

	<u>PAGE</u>
1.0 SOURCE IDENTIFICATION	5
1.1 Source	
1.2 Owner/Parent Company	
1.3 Operator	
1.4 General Source Description	
2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT	6
3.0 INSIGNIFICANT ACTIVITIES	8
3.1 Identification of Insignificant Activities	
3.2 Compliance with Applicable Requirements	
3.3 Addition of Insignificant Activities	
4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE	10
5.0 OVERALL SOURCE CONDITIONS	12
5.1 Source Description	
5.2 Applicable Regulations	
5.3 Non-Applicability of Regulations of Concern	
5.4 Source-Wide Operational and Production Limits and Work Practices	
5.5 Source-Wide Emission Limitations	
5.6 General Recordkeeping Requirements	
5.7 General Reporting Requirements	
5.8 General Operational Flexibility/Anticipated Operating Scenarios	
5.9 General Compliance Procedures	
6.0 EMISSIONS REDUCTION MARKETING SYSTEM (ERMS)	23
6.1 Description of ERMS	
6.2 Applicability	
6.3 Obligation to Hold Allotment Trading Units (ATUs)	
6.4 Market Transaction	
6.5 Emission Excursion Compensation	
6.6 Quantification of Seasonal VOM Emissions	
6.7 Annual Account Reporting	
6.8 Allotment of ATUs to the Source	
6.9 Recordkeeping for ERMS	
6.10 Federal Enforceability	
6.11 Exclusions from Further Reductions	

	<u>PAGE</u>
7.0 UNIT SPECIFIC CONDITIONS	30
7.1 Group No. 1 Electric Arc Furnace	
7.2 Group No. 2 Steel Casting	
7.3 Group No. 3 Finishing	
7.4 Group No. 4 Coremaking	
7.5 Group NO. 5 Sand Handling	
8.0 GENERAL PERMIT CONDITIONS	65
8.1 Permit Shield	
8.2 Applicability of Title IV Requirements	
8.3 Emissions Trading Programs	
8.4 Operational Flexibility/Anticipated Operating Scenarios	
8.5 Testing Procedures	
8.6 Reporting Requirements	
8.7 Obligation to Comply with Title I Requirements	
9.0 STANDARD PERMIT CONDITIONS	70
9.1 Effect of Permit	
9.2 General Obligations of Permittee	
9.3 Obligation to Allow Illinois EPA Surveillance	
9.4 Obligation to Comply with Other Requirements	
9.5 Liability	
9.6 Recordkeeping	
9.7 Annual Emissions Report	
9.8 Requirements for Compliance Certification	
9.9 Certification	
9.10 Defense to Enforcement Actions	
9.11 Permanent Shutdown	
9.12 Reopening And Reissuing Permit For Cause	
9.13 Severability Clause	
9.14 Permit Expiration and Renewal	
10.0 ATTACHMENTS	
10.1 Attachment 1 - Summary of Emission Units	1-1
10.2 Attachment 2 - Certification by a Responsible Official	2-1

1.0 SOURCE IDENTIFICATION

1.1 Source

National Castings, Inc.  
110 North 25th Avenue  
Melrose Park, Illinois 60160  
708/344-0675

I.D. No.: 031186ABF  
Standard Industrial Classification: 3325, Steel Foundries

1.2 Owner/Parent Company

National Castings, Inc.  
110 North 25th Avenue  
Melrose Park, Illinois 60160

1.3 Operator

National Castings, Inc.  
110 North 25th Avenue  
Melrose Park, Illinois 60160

Jerry Farmer, Environmental/Loss Control Manager  
708/344-0675 Ext. 348

1.4 General Source Description

The source produces steel castings by melting scrap steel in a single electric arc furnace and pouring the molten metal into casting molds made from sand. The source reprocesses the spent molding sand into new molds and manufactures casting sand cores on site.

## 2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT

ACMA	Alternative Compliance Market Account
Act	Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
ATU	Allotment Trading Unit
BAT	Best Available Technology
Btu	British thermal unit
°C	Celsius
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CFR	Code of Federal Regulations
cm	Centimeter
CO	Carbon Monoxide
ERMS	Emission Reduction Marketing System
°F	Fahrenheit
Ft	Foot
gal	gallon
HAP	Hazardous Air Pollutant
hr	hour
IAC	Illinois Administrative Code
I.D. No.	Identification number of source, assigned by the Illinois EPA
ILCS	
Illinois EPA	Illinois Environmental Protection Agency
in	inch
kPa	Kilopascal
kg	Kilogram
kW	Kilowatts
l	Liter
LAER	Lowest Achievable Emission Rate
lb	pound
LEL	Lower Explosive Limit
m	Meter
m <sup>3</sup>	Cubic meter
MACT	Maximum Achievable Control Technology
Mg	Megagram
min	Minute
mmBtu	Million British thermal units
mmft <sup>3</sup>	Million cubic feet
mmscf	Million standard cubic foot
mo	month
MW	Megawatt
NESHAP	National Emission Standards for Hazardous Air Pollutants

NO <sub>x</sub>	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM <sub>10</sub>	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
psi	Pound per square inch
ppm	parts per million
PSD	Prevention of Significant Deterioration
RMP	Risk Management Plan
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur Dioxide
T1	Title I - Identifies Title I conditions that have been carried over from an existing construction permit
T1N	Title I New - Identifies Title I conditions that are being established in this permit
T1R	Title I Revision - Identifies Title I conditions that have been carried over from an existing construction permit and subsequently revised in this permit
T	Ton
USEPA	United States Environmental Protection Agency
VOM	Volatile Organic Material
VOL	Volatile Organic Liquid
yr	Year

### 3.0 INSIGNIFICANT ACTIVITIES

#### 3.1 Identification of Insignificant Activities

The following activities at the source constitute insignificant activities as specified in 35 IAC 201.210:

- 3.1.1 Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a)(1) and 201.211, as follows:

- Raw Material Handling/Storage (RMH-1)
- Ladle Preheater (LP-1)
- New Sand Hopper (NSH-1)
- Reclaim Sand Storage (REC-2)
- Flame Hardener (FH-1)
- Hevi Sand Silo (HSS-1)
- Sand Storage Pile (SSP-1)
- 6 - Gate Removal Gas Torches (GR-1)
- 9 - Heat Treat Furnaces (HT-1)
- New Sand Storage Silo (NSS-1)
- New Sand Storage Silo (NSS-2)
- Arc Wash and Welding (AWW-1)
- Welding and Grinding (W/G-1)
- Mold Assembly Line (MAL-1)
- Painting (PB-1)

- 3.1.2 Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a)(2) or (a)(3), as follows:

None

- 3.1.3 Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a)(4) through (18), as follows:

- a. Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].
- b. Coating operations (excluding powder, architectural and industrial maintenance coating) with aggregate VOM usage that never exceeds 15 lbs/day from all coating lines at the source, including VOM from



coating, dilutents, and cleaning materials [35 IAC 201.210(a)(13)].

- 3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b).

### 3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability, such as 35 IAC 212.301 and 212.123 (Condition 5.2.2), the Permittee shall comply with the following requirements, as applicable:

- 3.2.1 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 215.182, 218.182, or 219.182.
- 3.2.2 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.
- 3.2.3 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 215.301, 218.301, or 219.301, which requires that organic material emissions not exceed 8.0 pounds per hour or do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.

### 3.3 Addition of Insignificant Activities

- 3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).
- 3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.
- 3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

#### 4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

Group	Emission Unit	Description	Date Constructed	Emission Control Equipment
No.1 Electric Arc Furnace	RMH-1	EAF Charging	1967	CAN-1
	EAF-1	EAF Melting	1967	BH-1 and BH-2
	TAP-1	EAF Tapping	1967	CAN-1
No. 2 Steel Casting	P-1	Steel Casting/Pouring	Pre-1972	None
	C-1	Steel Casting Cooling	Pre-1980	None
	SO-1	Steel Casting Shakeouts	1959	Multiventuri Scrubber
	SO-2	Steel Casting Shakeouts	1959	Multiventuri Scrubber
No. 3 Finishing	SB-1	Shotblast	1984	Baghouse BH-8
	RB-1	Rotoblast	1980	Baghouse BH-5
No. 4 Coremaking	KPU-1	Kloster Phenolic Urethane No-bake	1992	None
	ECT-1	Ecolotec 2602-A Low Phenolic No-bake	1994	None
	WBC-1	Warm Box Furan System	1983	None
	CO2-1	CO <sub>2</sub> Sodium Silicate System	1968	None
	HBC-1	Hot Box Low Phenolic No-bake	1986	None
	HS-1	Hevi-Sand Muller	1976	None
	DO-1	Drying Oven	1974	None
	DO-2	Drying Oven	1975	None
	PPU-1	Palmer Phenolic Urethane No Bake	1998	None
No. 4 Coremaking (Cont.)	CBC-1	Core Box Coating	Pre 1972	None

Group	Emission Unit	Description	Date Constructed	Emission Control Equipment
No. 5 Sand Handling	SS-1	Lump Breaker Screening	1977	Baghouse BH-4
	SS-2	Primary Sand Screening	1983	Baghouse BH-4
	SS-3	Secondary Sand Screening	1993	Baghouse BH-4
	RSC-1	Return Sand Conveying System	Pre-1972	None
	RSS-1	3 - Return Sand Silos	1975	Baghouse BH-3
	REC-1 and CYC-1	Sand Reclaimer with Process Cyclone Separator	1994	Baghouse BH-9
	SM-1	No. 1 Foundry Sand Muller	1983	Roto-Clone Wet Scrubber RO-2
	SM-2	No. 2 Foundry Sand Muller	1983	Roto-Clone Wet Scrubber RO-2
	SCS-1	Sand Conveying System	Pre-1972	None

## 5.0 OVERALL SOURCE CONDITIONS

### 5.1 Source Description

This permit is issued based on the source requiring a CAAPP permit as a major source of PM<sub>10</sub>, CO, VOM, and HAPs emissions.

### 5.2 Applicable Regulations

5.2.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions) of this permit.

5.2.2 In addition, emission units at this source are subject to the following regulations of general applicability:

- a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source. [35 IAC 212.301]
- b. The following limit pertains to opacity of visible emissions from any emission unit unless another more stringent standard is specified elsewhere.
  - i. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124 [35 IAC 212.123(a)].
  - ii. The emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 m (1000 ft) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period [35 IAC 212.123(b)].
- c.
  - i. No person shall cause or allow the emission of PM into the atmosphere in any one hour period

from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of PM from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.322(c). The allowable PM emission limits for the process emission units may be calculated based upon the following emission factors and formulas: [35 IAC 212.322(a) and (b)]

$$E = C + A(P)^B$$

Where:

E = Allowable PM emission rate

P = Process weight rate

For process weight rates up to 27.2 Mg/hr (30 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.985	4.10
B	0.67	0.67
C	0	0

For process weight rate in excess of 27.2 Mg/hr (30 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	25.21	55.0
B	0.11	0.11
C	-18.4	-40.0

- ii. No person shall cause or allow the emission of PM into the atmosphere in any one hour period from any new process emission unit which either alone or in combination with the emission of PM from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified 35 IAC 212.321(c). The allowable PM emission limits for the process emission units may be calculated based upon the following emission

factors and formulas: [35 IAC 212.321(a) and (b)]

$$E = A(P)^B$$

Where:

P = Process weight rate; and  
E = Allowable emission rate; and,

Up to process weight rate of 408 Mg/hr (450 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.214	2.54
B	0.534	0.534

For process weight rate greater than or equal to 408 Mg/hr (450 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	11.42	24.8
B	0.16	0.16

- d. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, or 218.304 and the following exemption: If no odor nuisance exists the limitations of 35 IAC Part 218, Subpart G shall only apply to photochemically reactive material as defined in 35 IAC 211.4690. [35 IAC 218.301].
- e. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2,000 ppm [35 IAC 214.301].

5.2.3 The Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

- b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

#### 5.2.4 Risk Management Plan

Should this stationary source, as defined in 40 CFR Section 68.3, become subject to the Accidental Release Prevention regulations in 40 CFR Part 68, then the owner or operator shall submit [40 CFR 68.215(a)(2)(i) and (ii)]:

- a. A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or
- b. A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the Risk Management Plan (RMP), as part of the annual compliance certification required by 40 CFR Part 70 or 71.

- 5.2.5 a. Should this stationary source become subject to a regulation under 40 CFR Parts 60, 61, or 63, or 35 IAC after the date issued of this permit, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by 40 CFR Part 70 or 71.
- b. No later than upon the submittal for renewal of this permit, the owner or operator shall submit, as part of an application, the necessary information to address either the non-applicability of, or demonstrate compliance with all applicable requirements of any potentially applicable regulation which was promulgated after the date issued of this permit.

#### 5.2.6 Episode Action Plan

- a. If the source is required to have an episode action plan pursuant to 35 IAC 244.142, the Permittee shall maintain at the source and have on file with the

Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The plan shall contain the information specified in 35 IAC 244.144.

- b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert or emergency be declared.
- c. If a change occurs at the source which requires a revision of the plan (e.g., operational change, change in the source contact person), a copy of the revised plan shall be submitted to the Illinois EPA for review within 30 days of the change. Such plans shall be further revised if disapproved by the Illinois EPA.
- d. For sources required to have a plan pursuant to 35 IAC 244.142, a copy of the original plan and any subsequent revisions shall be sent to:
  - i. Illinois EPA, Compliance Section; and
  - ii. For sources located in Cook County and outside of the city of Chicago: Cook County Department of Environmental Control; or
  - iii. For sources located within the city of Chicago: Chicago Department of Environmental Control.

#### 5.2.7 PM<sub>10</sub> Contingency Measure Plan

Should this stationary source, as defined in 35 IAC 212.700, become subject to the requirement to prepare and submit a contingency measure plan reflecting the PM<sub>10</sub> emission reductions as set forth in 35 IAC 212.703, then the owner or operator shall submit such plan to the Illinois EPA for review and approval within ninety (90) days after the date this source becomes subject to this requirement. Such plan will be incorporated by reference into this permit and shall be implemented in accordance with 35 IAC 212.704. The source shall comply with the applicable requirements of 35 IAC Part 212, Subpart U, incorporated herein by reference.

#### 5.3 Non-Applicability of Regulations of Concern

This permit is issued based on emission units located at this source not being subject to the control requirements of 35 IAC Part 218, Subpart TT because iron and steel production is exempt pursuant to 35 IAC 218.980(f).



#### 5.4 Source-Wide Operational Limits and Work Practices

In addition to the source-wide requirements in the Standard Permit Conditions in Section 9, the Permittee shall fulfill the following source-wide operational limitations and/or work practice requirements:

##### 5.4.1 Minimum Operating Program

- a. This source shall be operated under the provisions of an operating program prepared by the Permittee and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions. As a minimum, the operating program shall include: [35 IAC 212.309(a) and 212.310].
  - i. The name and address of the source;
  - ii. The name and address of the owner or operator responsible for execution of the operating program;
  - iii. A map or diagram of the source showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source;
  - iv. Location of unloading and transporting operations with pollution control equipment;
  - v. A detailed description of the best management practices utilized to achieve compliance with this Subpart, including an engineering specification of particulate collection equipment, application systems for water, oil, chemicals and dust suppressants utilized and equivalent methods utilized;
  - vi. Estimated frequency of application of dust suppressants by location of materials; and
  - vii. Such other information as may be necessary to facilitate the Illinois EPA's review of the operating program.
- b. The operating program shall be amended from time to time by the Permittee so that the operating program is current. Such amendments shall be consistent with the requirements set forth by this Condition and shall be submitted to the Illinois EPA. [35 IAC 212.312]

#### 5.4.2. Fugitive PM Emissions Control

- a. Screening operations, conveyor transfer points, conveyors, storage bins, and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke feeding, or be treated by an equivalent method in accordance with an operating program. [35 Ill. Adm. Code 212.308]
- b. All storage piles of materials with uncontrolled emissions of fugitive PM in excess of 45.4 Mg/yr (50 T/yr) which are located within a source whose potential PM emissions from all emission units exceed 90.8 Mg/yr (100 T/yr) shall be protected by a cover or sprayed with a surfactant solution or water on a regular basis, as needed or treated by an equivalent method, in accordance with the operating program. [35 Ill. Adm. Code 212.304]
- c. All conveyor loading operations to storage piles specified in Condition 5.4.2(b) shall utilize spray systems, telescopic chutes, stone ladders or other equivalent methods in accordance with the operating program. [35 Ill. Adm. Code 212.305]
- d. All normal traffic pattern roads and parking facilities located at this source shall be paved or treated with water, oils, or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils, or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program. [35 Ill. Adm. Code 212.306]
- e. No person shall cause or allow the operation of a vehicle of the second division as defined by 625 ILCS 5/1-217, or a semi-trailer as defined by 625 ILCS 5/1-187, without a covering sufficient to prevent the release of PM into the atmosphere, provided that this rule shall not pertain to automotive exhaust emissions, pursuant to 35 Ill. Adm. Code 212.315.

#### 5.5 Source-Wide Emission Limitations

##### 5.5.1 Permitted Emissions for Fees

The annual emissions from the source, not considering insignificant activities as addressed by Section 3.0 of this permit, shall not exceed the following limitations. The overall source emissions shall be determined by adding emissions from all emission units. Compliance with these

limits shall be determined on a calendar year basis. These limitations (Condition 5.5.1) are set for the purpose of establishing fees and are not federally enforceable.

Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Volatile Organic Material (VOM)	119.34
Sulfur Dioxide (SO <sub>2</sub> )	11.78
Particulate Matter (PM)	704.99
Nitrogen Oxides (NO <sub>x</sub> )	9.18
HAP, not included in VOM or PM	---
TOTAL	845.29

5.5.2 Emissions of Hazardous Air Pollutants

Source-wide emission limitations for HAPs as listed in Section 112(b) of the CAA are not set. This source is considered to be a major source of HAPs.

5.5.3 Other Source-Wide Emission Limitations

Other source-wide emission limitations are not set for this source pursuant to either the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, Illinois EPA rules for Major Stationary Sources Construction and Modification, 35 IAC Part 203, or Section 502(b)(10) of the CAA. However, there may be unit specific emission limitations set forth in Section 7 of this permit pursuant to these rules.

5.6 General Recordkeeping Requirements

5.6.1 Emission Records

The Permittee shall maintain records of the following items for the source to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

Total annual emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions) of this permit.

5.6.2 Records developed under the implementation of the operating program of Condition 5.4.1(a), e.g., periods, duration and quantity of water that is applied to roadways.

5.6.3 Retention and Availability of Records

- a. All records and logs required by this permit shall be retained for at least five years from the date of

entry (unless a longer retention period is specified by the particular recordkeeping provision herein), shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.

- b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

## 5.7 General Reporting Requirements

### 5.7.1 General Source-Wide Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

### 5.7.2 Annual Emissions Report

The annual emissions report required pursuant to Condition 9.7 shall contain emissions information for the previous calendar year.

## 5.8 General Operational Flexibility/Anticipated Operating Scenarios

The provisions of Condition 5.2.2(a) shall not apply and spraying required by the operating program of Condition 5.2.2(b)(ii) shall not be required when the wind speed is greater than 40.2 km/hr (25 mph). Determination of wind speed for the purpose of this rule shall be by a one-hour average or hourly recorded value at the nearest official station of the U. S. Weather Bureau or by wind speed instruments operated on the site. In cases where the duration of operations subject to this rule is less than one hour, wind speed may be averaged over the duration of the operations on the basis of on-site wind speed instrument measurements. [35 Ill. Adm. Code 212.314]

## 5.9 General Compliance Procedures

5.9.1 Compliance provisions addressing Condition 5.2.2(a) are not set by this permit as compliance is assumed to be achieved by the implementation of an approved operating plan of Condition 5.4.1.

5.9.2 Compliance provisions addressing Conditions 5.2.2(b) and 5.2.2(c) are found in the unit specific conditions of Section 7 of this permit.

### 5.9.3 General Procedures for Calculating Source Wide Emissions

Compliance with the source-wide emission limits specified in Condition 5.5 shall be based on the recordkeeping and reporting requirements of Conditions 5.6 and 5.7, Compliance Procedures in the unit specific conditions of Section 7 of this permit, and the following procedures for fugitive PM emission points addressed in Conditions 5.2.2(a), 5.4.1, and 5.4.2:

- a. Emissions of PM and PM<sub>10</sub> from loading sand onto storage piles shall be calculated by using the emission factor determined from the following formula:

$$E = (k)(0.0032)[(U/5)^{1.3}/(M/2)^{1.4}]$$

Where:

E = Emission factor in pounds emissions per ton of material loaded

k = Particle size multiplier (dimensionless), 1 for PM and 0.35 for PM<sub>10</sub>

U = Mean wind speed (mph)

M = Material moisture content (%)

This is the formula from AP-42, Section 13.2.4, 1/95 that is to be used to develop an emission factor for the fugitive PM emissions from loading onto storage piles.

- b. Emissions of PM and PM<sub>10</sub> from the roadways and parking areas shall be calculated by using the emission factor developed from the following formula:

$$E = (k)(5.9)(s/12)(S/30)(W/3)^{0.7}(w/4)^{0.5}(365-p/365)$$

Where:

E = Emission factor in pounds per vehicle mile traveled

k = Particle size multiplier (dimensionless), 1 for PM and 0.36 for PM<sub>10</sub>

s = Silt content of road surface material (%)

S = Mean vehicle speed (mph)

W = Mean vehicle weight (tons)

w = Mean number of wheels

p = Number of days with at least 0.01 inches of  
rain

This is the formula from AP-42, Section 13.2.2, 9/98  
that is to be used to develop an emission factor for  
the fugitive PM emissions from unpaved roads.

## 6.0 EMISSIONS REDUCTION MARKET SYSTEM (ERMS)

### 6.1 Description of ERMS

The ERMS is a "cap and trade" market system for major stationary sources located in the Chicago ozone nonattainment area. It is designed to reduce VOM emissions from stationary sources to contribute to reasonable further progress toward attainment, as required by Section 182(c) of the CAA.

The ERMS addresses VOM emissions during a seasonal allotment period from May 1 through September 30. Once the ERMS begins, participating sources must hold "allotment trading units" (ATUs) for their actual seasonal VOM emissions. Each year participating sources are issued ATUs based on allotments set during initial issuance of the sources' CAAPP permits. These allotments are established from historical VOM emissions or "baseline emissions" lowered to provide the emissions reductions from stationary sources required for reasonable further progress.

By December 31 of each year, the end of the reconciliation period following the seasonal allotment period, each source shall have sufficient ATUs in its transaction account to cover its actual VOM emissions during the preceding season. A transaction account's balance as of December 31 will include any valid ATU transfer agreements entered into as of December 31 of the given year, provided such agreements are promptly submitted to the Illinois EPA for entry into the transaction account database. The Illinois EPA will then retire ATUs in sources' transaction accounts in amounts equivalent to their seasonal emissions. When a source does not appear to have sufficient ATUs in its transaction account, the Illinois EPA will issue a notice to the source to begin the process for Emissions Excursion Compensation.

In addition to receiving ATUs pursuant to their allotments, participating sources may also obtain ATUs from the market, including ATUs bought from other participating sources and general participants in the ERMS that hold ATUs (35 IAC 205.630) and ATUs issued by the Illinois EPA as a consequence of VOM emissions reductions from an Emissions Reduction Generator or an Intersector Transaction (35 IAC 205.500 and 35 IAC 205.510). During the reconciliation period, sources may also buy ATUs from a secondary reserve of ATUs managed by the Illinois EPA, the "Alternative Compliance Market Account" (ACMA) (35 IAC 205.710). Sources may also transfer or sell the ATUs that they hold to other sources or participants (35 IAC 205.630).

### 6.2 Applicability

This source is considered a "participating source" for purposes of the ERMS, 35 IAC Part 205.

### 6.3 Obligation to Hold Allotment Trading Units (ATUs)

- a. Pursuant to 35 IAC 205.150(c)(1) and 35 IAC 205.720, and as further addressed by Condition 6.8, as of December 31 of each year, this source shall hold ATUs in its account in an amount not less than the ATU equivalent of its VOM emissions during the preceding seasonal allotment period (May 1 - September 30), not including VOM emissions from the following, or the source shall be subject to "emissions excursion compensation," as described in Condition 6.5.
  - i. VOM emissions from insignificant emission units and activities as identified in Section 3 of this permit, in accordance with 35 IAC 205.220;
  - ii. Excess VOM emissions associated with startup, malfunction, or breakdown of an emission unit as authorized in Section 7.0 of this permit, in accordance with 35 IAC 205.225;
  - iii. Excess VOM emissions to the extent allowed by a Variance, Consent Order, or Compliance Schedule, in accordance with 35 IAC 205.320(e)(3);
  - iv. Excess VOM emissions that are a consequence of an emergency as approved by the Illinois EPA, pursuant to 35 IAC 205.750; and
  - v. VOM emissions from certain new and modified emission units as addressed by Condition 6.8(b), if applicable, in accordance with 35 IAC 205.320(f).
- b. Notwithstanding the above condition, in accordance with 35 IAC 205.150(c)(2), if a source commences operation of a major modification, pursuant to 35 IAC Part 203, the source shall hold ATUs in an amount not less than 1.3 times its seasonal VOM emissions attributable to such major modification during the seasonal allotment period, determined in accordance with the construction permit for such major modification or applicable provisions in Section 7.0 of this permit.

### 6.4 Market Transactions

- a. The source shall apply to the Illinois EPA for and obtain authorization for a Transaction Account prior to conducting any market transactions, as specified at 35 IAC 205.610(a).
- b. The Permittee shall promptly submit to the Illinois EPA any revisions to the information submitted for its Transaction Account, pursuant to 35 IAC 205.610(b).



- c. The source shall have at least one account officer designated for its Transaction Account, pursuant to 35 IAC 205.620(a).
- d. Any transfer of ATUs to or from the source from another source or general participant must be authorized by a qualified Account Officer designated by the source and approved by the Illinois EPA, in accordance with 35 IAC 205.620, and the transfer must be submitted to the Illinois EPA for entry into the Transaction Account database.

#### 6.5 Emissions Excursion Compensation

Pursuant to 35 IAC 205.720, if the source fails to hold ATUs in accordance with Condition 6.3, it shall provide emissions excursion compensation in accordance with the following:

- a. Upon receipt of an Excursion Compensation Notice issued by the Illinois EPA, the source shall purchase ATUs from the ACMA in the amount specified by the notice, as follows:
  - i. The purchase of ATUs shall be in an amount equivalent to 1.2 times the emissions excursion; or
  - ii. If the source had an emissions excursion for the seasonal allotment period immediately before the period for the present emissions excursion, the source shall purchase ATUs in an amount equivalent to 1.5 times the emissions excursion.
- b. If requested in accordance with paragraph (c) below or in the event that the ACMA balance is not adequate to cover the total emissions excursion amount, the Illinois EPA will deduct ATUs equivalent to the specified amount or any remaining portion thereof from the ATUs to be issued to the source for the next seasonal allotment period.
- c. Pursuant to 35 IAC 205.720(c), within 15 days after receipt of an Excursion Compensation Notice, the owner or operator may request that ATUs equivalent to the amount specified be deducted from the source's next seasonal allotment by the Illinois EPA, rather than purchased from the ACMA.

#### 6.6 Quantification of Seasonal VOM Emissions

- a. The methods and procedures specified in Sections 5 and 7 of this permit for determining VOM emissions and compliance with VOM emission limitations shall be used for determining seasonal VOM emissions for purposes of the ERMS, with the following exceptions [35 IAC 205.315(b)]:

No exceptions

- b. The Permittee shall report emergency conditions at the source to the Illinois EPA, in accordance with 35 IAC 205.750, if the Permittee intends to deduct VOM emissions in excess of the technology-based emission rates normally achieved that are attributable to the emergency from the source's seasonal VOM emissions for purposes of the ERMS. These reports shall include the information specified by 35 IAC 205.750(a), and shall be submitted in accordance with the following:
  - i. An initial emergency conditions report within two days after the time when such excess emissions occurred due to the emergency; and
  - ii. A final emergency conditions report, if needed to supplement the initial report, within 10 days after the conclusion of the emergency.

#### 6.7 Annual Account Reporting

- a. For each year in which the source is operational, the Permittee shall submit, as a component of its Annual Emissions Report, seasonal VOM emissions information to the Illinois EPA for the seasonal allotment period. This report shall include the following information [35 IAC 205.300]:
  - i. Actual seasonal emissions of VOM from the source;
  - ii. A description of the methods and practices used to determine VOM emissions, as required by this permit, including any supporting documentation and calculations;
  - iii. A detailed description of any monitoring methods that differ from the methods specified in this permit, as provided in 35 IAC 205.337;
  - iv. If a source has experienced an emergency, as provided in 35 IAC 205.750, the report shall reference the associated emergency conditions report that has been approved by the Illinois EPA;
  - v. If a source's baseline emissions have been adjusted due to a Variance, Consent Order, or CAAPP permit Compliance Schedule, as provided for in 35 IAC 205.320(e)(3), the report shall provide documentation quantifying the excess VOM emissions during the season that were allowed by the Variance, Consent Order, or Compliance Schedule, in accordance with 35 IAC 205.320(e)(3); and

vi. If a source is operating a new or modified emission unit for which three years of operational data is not yet available, as specified in 35 IAC 205.320(f), the report shall specify seasonal VOM emissions attributable to the new emission unit or the modification of the emission unit.

b. This report shall be submitted by November 30 of each year, for the preceding seasonal allotment period.

#### 6.8 Allotment of ATUs to the Source

a. i. The allotment of ATUs to this source is 249 ATUs per seasonal allotment period.

ii. This allotment of ATUs reflects the Illinois EPA's determination that the source's baseline emissions were 28.2200 tons per season.

iii. The source's allotment reflects 88% of the baseline emissions (12% reduction), except for the VOM emissions from specific emission units excluded from such reduction, pursuant to 35 IAC 205.405, including units complying with MACT or using BAT, as identified in Condition 6.11 of this permit.

iv. ATUs will be issued to the source's Transaction Account by the Illinois EPA annually. These ATUs will be valid for the seasonal allotment period following issuance and, if not retired in this season, the next seasonal allotment period.

v. Condition 6.3(a) becomes effective beginning in the seasonal allotment period following the initial issuance of ATUs by the Illinois EPA into the Transaction Account for the source.

b. Contingent Allotments for New or Modified Emission Units

Not applicable.

c. Notwithstanding the above, part or all of the above ATUs will not be issued to the source in circumstances as set forth in 35 IAC Part 205, including:

i. Transfer of ATUs by the source to another participant or the ACMA, in accordance with 35 IAC 205.630;

ii. Deduction of ATUs as a consequence of emissions excursion compensation, in accordance with 35 IAC 205.720; and

- iii. Transfer of ATUs to the ACMA, as a consequence of shutdown of the source, in accordance with 35 IAC 205.410.

#### 6.9 Recordkeeping for ERMS

The Permittee shall maintain copies of the following documents as its Compliance Master File for purposes of the ERMS [35 IAC 205.700(a)]:

- a. Seasonal component of the Annual Emissions Report;
- b. Information on actual VOM emissions, as specified in detail in Sections 5 and 7 of this permit and Condition 6.6(a); and
- c. Any transfer agreements for the purchase or sale of ATUs and other documentation associated with the transfer of ATUs.

#### 6.10 Federal Enforceability

Section 6 becomes federally enforceable upon approval of the ERMS by USEPA as part of Illinois' State Implementation Plan.

#### 6.11 Exclusions from Further Reductions

- a. VOM emissions from the following emission units shall be excluded from the VOM emissions reductions requirements specified in 35 IAC 205.400(c) and (e) as long as such emission units continue to satisfy the following [35 IAC 205.405(a)]:
  - i. Emission units that comply with any NESHAP or MACT standard promulgated pursuant to the CAA;
  - ii. Direct combustion emission units designed and used for comfort heating purposes, fuel combustion emission units, and internal combustion engines; and
  - iii. An emission unit for which a LAER demonstration has been approved by the Illinois EPA on or after November 15, 1990.

The source has demonstrated in its ERMS application and the Illinois EPA has determined that the following emission units qualify for exclusion from further reductions because they meet the criteria as indicated above [35 IAC 205.405(a) and (c)]:

None

- b. VOM emissions from emission units using BAT for controlling VOM emissions shall not be subject to the VOM

emissions reductions requirement specified in 35 IAC 205.400(c) or (e) as long as such emission unit continues to use such BAT [35 IAC 205.405(b)].

The source has demonstrated in its ERMS application and the Illinois EPA has determined that the following emission units qualify for exclusion from further reductions because these emission units use BAT for controlling VOM emissions as indicated above [35 IAC 205.405(b) and (c)]:

None

## 7.0 UNIT SPECIFIC CONDITIONS

### 7.1 Group No. 1 Electric Arc Furnace Control See Individual Equipment of Condition 7.1.2

#### 7.1.1 Description

Scrap Steel is transported from storage to the EAF (EAF-1) via bottom drop ladle and crane. Ladles are filled with scrap metal (insignificant activity of RMH-1) and transferred to the EAF via an overhead crane. The EAF roof swings open and the bottom drop charge bucket opens to drop scrap steel into the EAF. During this process, emissions are controlled by the canopy baghouse (CAN-1).

After each addition of scrap steel, the EAF roof is closed and three (3) electrodes are lowered through the roof ports and an arc is struck to begin the melting process. The electric arc melts the scrap steel and produces emissions that vent around the electrodes and portals on the EAF roof. These emissions are captured by the EAF sidedraft collector hood and vented to two identical parallel baghouses (BH-1 and BH-2). During the melting process, slag accumulates on top of the molten steel which is poured off as a waste byproduct.

When the steel charge has been fully melted, the EAF is tapped (TAP-1) by tipping the EAF and pouring the molten metal into a pouring ladle. During tapping, the emissions are collected by the EAF roof canopy and are vented to the canopy baghouse (CAN-1). Once in the ladle, the molten metal is transported via overhead crane for Casting/Pouring.

#### 7.1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
RMH-1	EAF Charging	CAN-1
EAF-1	EAF Melting	BH-1 and BH-2
TAP-1	EAF Tapping	CAN-1

#### 7.1.3 Applicability Provisions and Applicable Regulations

- The "affected furnace" for the purpose of these unit-specific conditions, is an EAF where construction, reconstruction, or modification, as defined in 40 CFR, Part 60, Subpart A, commenced on or before October 21, 1974.
- The total PM emissions from meltdown and refining, charging, tapping, slagging, electrode port leakage and ladle lancing shall not exceed the allowable

emission rate specified by Condition 5.2.2(c)(i).  
[35 IAC 212.448]

- c. The affected furnace is subject to the emission limits identified in Conditions 5.2.2(b), 5.2.2(d), and 5.2.2(e).

#### 7.1.4 Non-Applicability of Regulations of Concern

This permit is issued based on the affected furnace not being subject to the New Source Performance Standards (NSPS) for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983, Subpart AA, and the NSPS for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983, Subpart AAa, because the affected furnace was constructed, reconstructed, or modified, as defined in 40 CFR, Part 60, Subpart A, on or before October 21, 1974.

#### 7.1.5 Control Requirements/Work Practices/Production Limits

None

#### 7.1.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

#### 7.1.7 Testing Requirements

- a. The Illinois EPA or USEPA may require the Permittee to test the affected furnace, along with its capture and control system, at such reasonable times as may be specified by the Illinois EPA or USEPA and at the expense of the Permittee. All such tests shall be made by or conducted under the direction of a person qualified by training and/or experience in the field of air pollution testing. [35 IAC 201.282(a)]
- b. Upon request by the Illinois EPA or USEPA, the Permittee shall measure the emissions in the effluent stream of the exhaust from the affected furnace for the pollutant(s) specified in the request. The following methods and procedures shall be used for the testing, unless another method is approved by the Illinois EPA or USEPA: Refer to 40 CFR 60, Appendix A for USEPA test methods for all pollutants except PM<sub>10</sub> which is in 40 CFR 51, Appendix M.

Location of sample points	USEPA Method 1
Gas flow and velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3

Moisture	USEPA Method 4
PM	USEPA Method 5 or 5D
PM <sub>10</sub> *	USEPA Method 201 or 201A
NO <sub>x</sub>	USEPA Method 7
Opacity	USEPA Method 9
CO	USEPA Method 10
Lead	USEPA Method 12
VOM	USEPA Method 18 or 25

\* PM<sub>10</sub> may be measured by using Method 5 or 5D if assuming that all of the PM measured is PM<sub>10</sub>.

- c. The Illinois EPA and USEPA may have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA or USEPA, the Permittee shall provide, without charge to the Illinois EPA or USEPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary. [35 IAC 201.282(b)]
- d. Other testing requirements are found in the standard conditions of Section 8.

#### 7.1.8 Monitoring Requirements

The Permittee shall monitor the differential pressure across each baghouse controlling the affected furnace.

#### 7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected furnace to demonstrate compliance with Conditions 5.5.1, 7.1.3(b), 7.1.3(c), 7.1.7, and 7.1.8, pursuant to Section 39.5(7)(b) of the Act:

- a. Total steel processed by the affected furnace in tons per day and compiled each month.
- b. A daily log recording the hours of operation of the affected furnace for each heat of each day.
- c. A weekly log that includes but not limited to deviations from normal pressure drops across the baghouse, maintenance activities, both scheduled and for repairs, etc.
- d. The results of any tests required by this permit.
- e. VOM emissions from the affected furnace in pounds per month and tons per year.



7.1.10 Reporting Requirements

In addition to the reporting requirements of Conditions 5.6, 8.6.2, and 8.6.3, the Permittee shall furnish the following notifications and reports:

None

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.1.12 Compliance Procedures

- a. Compliance with the emission limitations of Conditions 7.1.3(b) and 7.1.3(c) by the affected furnace is addressed by the monitoring in accordance with Condition 7.1.8, testing in accordance with Condition 7.1.7 and the recordkeeping required by Condition 7.1.9.
- b. To determine compliance with the emission limitations of Conditions 5.5.1 for the purpose of establishing fees, the emissions from the affected furnace shall be calculated by using the following emission factors:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lbs/ton)</u>
NO <sub>x</sub> (1)	0.2
CO (3)	14.4
PM <sub>10</sub> (1)	6.3
PM (1)	13.0
Lead (2)	0.12
SO <sub>2</sub> (1)	0.25
VOM (1)	0.35

(1) From EPA 450/4-90/003 (AIRS). Emission factors are uncontrolled where the capture efficiency is 100% and the control efficiency is 99%.

(2) Based on 0.92% lead content in charge material

(3) Based on an engineering estimate

(Emissions) = [(Emissions Factor) x (Tons of Steel Processed) x (1 - Capture Efficiency)]  
+ [(Emissions Factor) x (Tons of Steel Processed) x (Capture Efficiency) x (1 - Control Efficiency)]

- 7.2 Group No. 2 Steel Casting  
Control See Individual Equipment of Condition 7.2.2

7.2.1 Description

Molten metal is poured (P-1) directly from the ladle into casting molds on a conveyor system. As the molten metal contacts the casting molds, a portion of the VOM in the molds is released as indoor fugitive emissions upon metal contact. VOM and PM are also emitted indoors from the molds during the metal cooling (C-1) process. After the steel casting is hardened, the entire molding assembly is conveyed to a process called shakeout (SO-1). Here the metal casting is separated from the molding sand and cores by dumping the mold onto a movable grate that "shakes" the mold sand and cores from the metal casting. Spent molding and core sand fall through the grate and are conveyed to the sand system for reprocessing. Castings are transported by an overhead span crane to the finishing department. Dust emissions from the shakeout are collected by sidedraft hoods and routed to a multiventuri wet scrubber (MS-3) for PM control.

7.2.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
P-1	Steel Casting/Pouring	None
C-1	Steel Casting Cooling	None
SO-1	Steel Casting Shakeouts	Multiventuri Scrubber
SO-2	Steel Casting Shakeouts	Multiventuri Scrubber

7.2.3 Applicability Provisions and Applicable Regulations

- a. An "affected casting operation" is one of four process emission units/operations as described in the table of Condition 7.2.2
- b. An affected casting operation is subject to the emission limits of Conditions 5.2.2(b), 5.2.2(c), 5.2.2(d), and 5.2.2(e) if emitting the pollutant that each condition addresses

7.2.4 Non-Applicability of Regulations of Concern

This permit is issued based on an affected casting operation not being subject to 35 IAC 212.458 because it is not located in one of the areas defined in 35 IAC 212.324(a)(1).

7.2.5 Control Requirements/Work Practices/Production Limits

None

7.2.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.2.7 Testing Requirements

The Illinois EPA or USEPA may require the Permittee to test an affected casting operation, along with its capture and control system, at such reasonable times as may be specified by the Illinois EPA or USEPA and at the expense of the Permittee. All such tests shall be made by or conducted under the direction of a person qualified by training and/or experience in the field of air pollution testing. [35 IAC 201.282(a)]

- a. Upon request by the Illinois EPA or USEPA, the Permittee shall measure the emissions in the effluent stream of the exhaust from the affected casting operation for the pollutant(s) specified in the request. The following methods and procedures shall be used for the testing, unless another method is approved by the Illinois EPA or USEPA: Refer to 40 CFR 60, Appendix A for USEPA test methods for all pollutants except PM<sub>10</sub> which is found in 40 CFR 51, Appendix M.

Location of sample points	USEPA Method 1
Gas flow and velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
PM	USEPA Method 5
PM <sub>10</sub> *	USEPA Method 201 or 201A
NO <sub>x</sub>	USEPA Method 7
Opacity	USEPA Method 9
Lead	USEPA Method 12
VOM	USEPA Method 18 or 25

\* PM<sub>10</sub> may be measured by using Method 5 if assuming that all of the PM measured is PM<sub>10</sub>.

- b. The Illinois EPA and USEPA may have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA or USEPA, the Permittee shall provide, without charge to the Illinois EPA or USEPA, necessary holes in stacks or ducts and other safe and proper testing facilities,

including scaffolding, but excluding instruments and sensing devices, as may be necessary. [35 IAC 201.282(b)]

- c. Other testing requirements are found in the standard conditions of Section 8.

#### 7.2.8 Monitoring Requirements

The Permittee shall monitor the differential pressure across the multiventuri scrubber controlling an affected casting operation.

#### 7.2.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected casting operation to demonstrate compliance with Conditions 5.5.1, 7.2.3(b), 7.2.7, and 7.2.8, pursuant to Section 39.5(7)(b) of the Act:

- a. Total steel cast to an affected casting operation in tons per day and compiled each month.
- b. A daily log recording the hours of operation for an affected casting operation.
- c. A weekly log that includes but not limited to deviations from normal pressure drops across the multiventuri scrubber, maintenance activities, both scheduled and for repairs, etc.
- d. The results of any tests required by this permit.
- e. VOM emissions from an affected casting operation in pounds per month and tons per year.

#### 7.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected casting operation with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

None

#### 7.2.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

#### 7.2.12 Compliance Procedures

- a. Compliance with the emission limitations of Conditions 7.2.3(b) by an affected casting operation is addressed by monitoring in accordance with Condition 7.2.8, testing in accordance with Condition 7.2.7 and the recordkeeping required by Condition 7.2.9.
- b. To determine compliance with the emission limitations of Conditions 5.5.1 for the purpose of establishing fees, the emissions from an affected casting operation shall be calculated by using the following emission factors:

	<u>Pollutant</u>	<u>Emission Factor (lbs/ton cast)</u>
Steel Casting/Pouring	PM (1)	5
	PM <sub>10</sub> (1)	5
	Lead (2)	0.01134
	NO <sub>x</sub> (1)	0.01
	SO <sub>2</sub> (1)	0.02
	VOM (1)	0.14
Steel Casting Cooling	PM (1)	1.4
	PM <sub>10</sub> (1)	1.4
	Lead (2)	0.00567
	VOM (3)	0.1182
Steel Casting Shakeout	PM (1)	32
	PM <sub>10</sub> (1)	26.2
	Lead (2)	0.015
	VOM (1)	1.2

(1) From EPA 450/4-90/003 (AIRS). Emission factor for Casting Shakeout for PM, PM<sub>10</sub>, and Lead are uncontrolled where the capture efficiency is 85% and the control efficiency is 99%.

(2) Based on 0.92% lead content charge material

(3) From "Chemical Emissions from Foundry Molds"

(Emissions) = [(Emissions Factor) x (Tons of Castings) x (1 - Capture Efficiency)] + [(Emissions Factor) x (Tons of Castings) x (Capture Efficiency) x (1 - Control Efficiency)]

- 7.3 Group No. 3 Finishing  
Control See Individual Equipment of Condition 7.3.2

7.3.1 Description

Steel castings are transported from shakeout by an overhead span crane to gate/riser removal (GR-1, insignificant activity). At the gate riser removal station, metal risers are burned off with natural gas and oxygen torches. Foundry returns (cut-off risers) are sent back to the melt department for reuse. The castings are then transported to the shotblast cleaning (SB-1) unit where they are treated with abrasive media (steel shot) to clean and polish the casting surface. PM emissions from shotblast cleaning are vented through a baghouse (BH-8). Following shotblast, the castings are welded to specifications by an electric arc welding process and further cleaned by an electric arc wash process (AWW-1, insignificant activities).

Next the castings are heat treated (HT-1, insignificant activity) in one of nine natural gas ovens according to customer specifications. Heat treated castings are abrasively polished a second time by the rotoblast (RB-1) which is controlled by a baghouse (BH-5). Following rotoblast, all castings go to a second welding and grinding operation (W/G-1, insignificant activity) and flame hardening then some will go to a paint booth (PB-1, insignificant activity) to be painted.

7.3.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
SB-1	Shotblast	Baghouse BH-8
RB-1	Rotoblast	Baghouse BH-5

7.3.3 Applicability Provisions and Applicable Regulations

- a. An "affected finishing operation" is one of two process emission units/operations as described in the table of Condition 7.3.2.
- b. An affected finishing operation is subject to the emission limits of Conditions 5.2.2(b) and 5.2.2(c).

7.3.4 Non-Applicability of Regulations of Concern

N/A

7.3.5 Control Requirements/Work Practices/Production Limits

Each individual finishing operation is subject to the following material throughput limitations:

<u>Emission Unit</u>	<u>Castings Throughput</u>	
	<u>(tons/month)</u>	<u>(tons/year)</u>
SB-1	4,855	58,254
RB-1	4,855	58,254

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM and PM<sub>10</sub> emissions from an affected finishing operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

#### 7.3.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5.1, affected finishing operations are subject to the following:

- a. Emissions from affected finishing operation SB-1 shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(lb/month)</u>	<u>(ton/year)</u>
PM	825	4.95
PM <sub>10</sub>	825	4.95
Lead	8	0.046

These limits are based on the maximum production limits of Condition 7.3.5. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>,

and lead emissions from each affected finishing operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- b. Emissions from affected finishing operation RB-1 shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(lb/month)</u>	<u>(ton/year)</u>
PM	825	4.95
PM <sub>10</sub>	825	4.95
Lead	8	0.046

These limits are based on the maximum production limits of Condition 7.3.5. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and Lead emissions from each affected finishing operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

#### 7.3.7 Testing Requirements

The Illinois EPA or USEPA may require the Permittee to test an affected finishing operation, along with its capture and control system, at such reasonable times as may be specified by the Illinois EPA or USEPA and at the expense of the Permittee. All such tests shall be made by or conducted under the direction of a person qualified by training and/or experience in the field of air pollution testing. [35 IAC 201.282(a)]

- a. Upon request by the Illinois EPA or USEPA, the Permittee shall measure the emissions in the effluent stream of the exhaust from an affected finishing operation for the pollutant(s) specified in the request. The following methods and procedures shall be used for the testing, unless another method is approved by the Illinois EPA or USEPA: Refer to 40 CFR 60, Appendix A for USEPA test methods for all



pollutants except PM<sub>10</sub> which is found in 40 CFR 51, Appendix M.

Location of sample points	USEPA Method 1
Gas flow and velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
PM	USEPA Method 5
PM <sub>10</sub> *	USEPA Method 201 or 201A
Opacity	USEPA Method 9
Lead	USEPA Method 12

\* PM<sub>10</sub> may be measured by using Method 5 if assuming that all of the PM measured is PM<sub>10</sub>.

- b. The Illinois EPA and USEPA may have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA or USEPA, the Permittee shall provide, without charge to the Illinois EPA or USEPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary. [35 IAC 201.282(b)]
- c. Other testing requirements are found in the standard conditions of Section 8.

#### 7.3.8 Monitoring Requirements

The Permittee shall monitor the differential pressure across the baghouse on each affected finishing operation.

#### 7.3.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected finishing operation to demonstrate compliance with Conditions 5.5.1, 7.3.3(b), 7.3.5, 7.3.6, 7.3.7, and 7.3.8, pursuant to Section 39.5(7)(b) of the Act:

- a. Total steel finished in an affected finishing operation in tons per day and compiled each month.
- b. A daily log recording the hours of operation for an affected finishing operation.
- c. A weekly log that includes but not limited to deviations from normal pressure drops across each baghouse, maintenance activities, both scheduled and for repairs, etc.

- d. The results of any tests required by this permit.
- e. PM, PM<sub>10</sub>, and Lead emissions from each affected finishing operation in pounds per month and tons per year.

#### 7.3.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected finishing operation with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

None

#### 7.3.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

#### 7.3.12 Compliance Procedures

- a. Compliance with the emission limitations of Conditions 7.3.3(b) by an affected finishing operation is addressed by the monitoring in accordance with Condition 7.3.8, testing in accordance with Condition 7.3.7 and the recordkeeping required by Condition 7.3.9.
- b. To determine compliance with the emission limitations of Conditions 5.5.1 and the emission limits of Condition 7.3.6, the emissions from an affected finishing operation shall be calculated by using the following emission factors:

	<u>Pollutant</u>	<u>Emission Factor (lbs/ton cast)</u>
SB-1	PM (1)	17
	PM <sub>10</sub> (1)	1.7
	Lead (2)	0.1564
RB-1	PM (1)	17
	PM <sub>10</sub> (1)	1.7
	Lead (2)	0.1564

- (1) From EPA 450/4-90/003 (AIRS). Emission factors are uncontrolled where the control efficiency is 99% for PM and lead and 90% for PM<sub>10</sub>.

(2) Based on 0.92% lead content in charge material

$$\begin{aligned} \text{(Emissions)} = & [(\text{Emissions Factor}) \times (\text{Tons of} \\ & \text{Castings}) \times (1 - \text{Capture Efficiency})] + \\ & [(\text{Emissions Factor}) \times (\text{Tons of} \\ & \text{Castings}) \times (\text{Capture Efficiency}) \times (1 - \\ & \text{Control Efficiency})] \end{aligned}$$

- 7.4 Group No. 4 Coremaking  
Control See Individual Equipment of Condition 7.4.2

7.4.1 Description

The core making operation consists of five different types of resin-based cores: Kloster Phenolic Urethane No-bake (KPU-1); Palmer Phenolic Urethane No-Bake, Ecolotec 2602-A Low Phenolic No-bake (ECT-1); Warm Box Furan System (WBC-1); CO<sub>2</sub> Sodium Silicate System (CO2-1); and Hot Box Low Phenolic (HBC-1). The Hevi-Sand Silo (HSS-1), equipped with an integral dust arrestor, feeds sand to the Hevi-Sand Muller (HS-1). HS-1 supplies new chromite sand primarily to KPU-1 and ECT-1, and also to CO2-1 for the preparation of certain cores. New chromite sand is also used as make-up molding sand. The remaining coremaking processes receive new sand from New Sand Storage (NSS-1), which is controlled by a dust arrestor and pneumatically conveyed. For each sand making process, new sand is mix mulled with a resin binder, and the prepared sand mixture is pressed into cores. Fugitive VOM emissions are also generated during Core Box Coating (CBC-1), where a non-chlorinated hydrocarbon is applied as a mold release agent for warm box and hot box cores. Cores receiving a core wash are dried in a gas fired oven (DO-1or DO-2).

7.4.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
KPU-1	Kloster Phenolic Urethane No-bake	None
ECT-1	Ecolotec 2602-A Low Phenolic No-bake	None
PPU-1	Palmer Phenolic Urethane No-bake	None
WBC-1	Warm Box Furan System	None
CO2-1	CO <sub>2</sub> Sodium Silicate System	None
HBC-1	Hot Box Low Phenolic No-bake	None
HS-1	Hevi-Sand Muller	None
CSC-1	Core Sand Conveyor	None
DO-1	3 Drying Ovens	None
DO-2	Drying Oven	None
CBC-1	Core Box Coating	None

7.4.3 Applicability Provisions and Applicable Regulations

- a. An "affected coremaking operation" is a process emission unit/operation as described in the table of Condition 7.4.2
- b. An affected coremaking operation is subject to the emission limits of Conditions 5.2.2(b), 5.2.2(c) and 5.2.2(d).

#### 7.4.4 Non-Applicability of Regulations of Concern

N/A

#### 7.4.5 Control Requirements/Work Practices/Production Limits

- a. The affected coremaking operation KPU-1 and its accompanying core box coating (CBC-1) is subject to the following material throughput limitations:

<u>Material</u>	<u>Usage</u>	
	<u>(lbs/month)</u>	<u>(tons/year)</u>
20-165 Delta Set	1321.4	7.93
23-133 Coreactant	857	5.14
17-752 Activator	134	0.80
Sand	171,386	1,028.32
Core Box Coating	33.3	0.20

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and VOM emissions from an affected coremaking operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- b. The affected coremaking operation ECT-1 is subject to the following material throughput limitations:

<u>Material</u>	<u>Usage</u>	
	<u>(lbs/month)</u>	<u>(tons/year)</u>
2602-A Ecolotec	12,693	76.16
Sand	470,103	2,821

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically

35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and VOM emissions from an affected coremaking operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- c. The affected coremaking operation WBC-1 is subject to the following material throughput limitations:

<u>Material</u>	Usage	
	<u>Lbs/Month</u>	<u>Tons/Year</u>
08-55 Warm Box Resin	217.5	13.05
17-550 Catalyst	453.3	2.05
Sand	145,000	870

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and VOM emissions from an affected coremaking operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- d. The affected coremaking operation HBC-1 is subject to the following material throughput limitations:

<u>Material</u>	Usage	
	<u>(lbs/month)</u>	<u>(tons/year)</u>
57-947 Catalyst	720	4.32
57-853 Resin	3,600	21.60
Sand	100,000	720

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and VOM emissions from an affected coremaking operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- e. The affected coremaking operation PPU-1 and its accompanying core box coating (CBC-1) operation are subject to the following material throughput limitations:

<u>Material</u>	<u>Usage</u>	
	<u>(lbs/month)</u>	<u>(tons/year)</u>
20-165 Delta Set	2,500	15
23-133 Coreactant	1,666.67	10
17-752/777 Activator	297.62	1.79
Sand	416,668	2,500
Core Box Coating	16.7	0.1

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and VOM emissions from an affected coremaking operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

#### 7.4.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5.1, individual affected coremaking operations are subject to the following:

- a. Emissions from the affected coremaking operation KPU-1 and its accompanying core box coating (CBC-1) operation shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(lbs/month)</u>	<u>(tons/year)</u>
PM	20	0.12
PM <sub>10</sub>	10	0.06
VOM	605	3.63

These limits are based on the maximum production limits of Condition 7.4.5. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and VOM emissions from an affected coremaking operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- b. Emissions from the affected coremaking operation ECT-1 shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(lbs/month)</u>	<u>(tons/year)</u>
PM	825	0.34
PM <sub>10</sub>	825	0.17
VOM	528.3	3.67

These limits are based on the maximum production limits of Condition 7.4.5. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>,



and VOM emissions from an affected coremaking operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- c. Emissions from the affected coremaking operation WBC-1 shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(lbs/month)</u>	<u>(tons/year)</u>
PM	16.7	0.10
PM <sub>10</sub>	8.3	0.05
VOM	730	4.38

These limits are based on the maximum production limits of Condition 7.4.5. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and VOM emissions from an affected coremaking operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- d. Emissions from the affected coremaking operation HBC-1 shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(lbs/month)</u>	<u>(tons/year)</u>
PM	15	0.09
PM <sub>10</sub>	6.7	0.04
VOM	756.67	4.54

These limits are based on the maximum production limits of Condition 7.4.5. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21,

Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and VOM emissions from an affected coremaking operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- e. Emissions from the affected coremaking operation PPU-1 and its accompanying core box coating (CBC-1) operation shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(lbs/month)</u>	<u>(tons/year)</u>
PM	50	0.30
PM <sub>10</sub>	25	0.15
VOM	1,138	6.83

These limits are based on the maximum production limits of Condition 7.4.5. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and VOM emissions from an affected coremaking operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

#### 7.4.7 Testing Requirements

The Illinois EPA or USEPA may require the Permittee to test an affected coremaking operation, along with any capture and control system, at such reasonable times as may be specified by the Illinois EPA or USEPA and at the expense of the Permittee. All such tests shall be made by or conducted under the direction of a person qualified by training and/or experience in the field of air pollution testing. [35 IAC 201.282(a)]

- a. Upon request by the Illinois EPA or USEPA, the Permittee shall measure the emissions in the effluent stream of the exhaust from an affected coremaking operation for the pollutant(s) specified in the

request. The following methods and procedures shall be used for the testing, unless another method is approved by the Illinois EPA or USEPA: Refer to 40 CFR 60, Appendix A for USEPA test methods for all pollutants except PM<sub>10</sub> which is in 40 CFR 51, Appendix M.

Location of sample points	USEPA Method 1
Gas flow and velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
PM	USEPA Method 5
PM <sub>10</sub> *	USEPA Method 201 or 201A
Opacity	USEPA Method 9
VOM	USEPA Method 18 or 25

\* PM<sub>10</sub> may be measured by using Method 5 if assuming that all of the PM measured is PM<sub>10</sub>.

- b. The Illinois EPA and USEPA may have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA or USEPA, the Permittee shall provide, without charge to the Illinois EPA or USEPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary. [35 IAC 201.282(b)]
- c. Other testing requirements are found in the standard conditions of Section 8.

#### 7.4.8 Monitoring Requirements

N/A

#### 7.4.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected coremaking operation to demonstrate compliance with Conditions 5.5.1, 7.4.3(b), 7.4.5, 7.4.6, 7.4.7, and 7.4.8, pursuant to Section 39.5(7)(b) of the Act:

- a. Total raw material usage including sand, resins, additives, binders, etc. in pounds per day and compiled each month.
- b. A daily log recording the hours of operation for an affected coremaking operation.

- c. A record of all Material Safety Data Sheets (MSDS) that contains VOM content for all adhesives, binders, resins, additives, coatings, and/or washes used at an affected coremaking operation.
- d. The results of any tests required by this permit.
- e. PM, PM<sub>10</sub>, and VOM emissions from each affected coremaking operation in pounds per month and tons per year.

#### 7.4.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected coremaking operation with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

None

#### 7.4.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

#### 7.4.12 Compliance Procedures

- a. Compliance with the emission limitations of Conditions 7.4.3(b) by an affected coremaking operation is addressed by the monitoring in accordance with Condition 7.4.8, testing in accordance with Condition 7.4.7 and the recordkeeping required by Condition 7.4.9.
- b. Compliance with the material usage limitations of Conditions 7.4.3 by an affected coremaking operation is addressed by the recordkeeping required by Condition 7.4.9.
- c. To determine compliance with the emission limitations of Conditions 5.5.1 for the purpose of establishing fees and the emission limits of Condition 7.4.6, the emissions from the affected coremaking operation shall be calculated by using the following emission factors:

<u>Emission Unit</u>	<u>Pollutant</u>	<u>Emission Factor (lbs/ton sand)</u>
KPU-1	PM (1)	0.24
	PM <sub>10</sub> (1)	0.12
	VOM (2)	6.71
ECT-1	PM (1)	0.24
	PM <sub>10</sub> (1)	0.12
	VOM (2)	2.25
WBC-1	PM (1)	0.24
	PM <sub>10</sub> (1)	0.12
	VOM (2)	10.06
CO2-1	PM (1)	0.24
	PM <sub>10</sub> (1)	0.12
HBC-1	PM (1)	0.24
	PM <sub>10</sub> (1)	0.12
	VOM (2)	12.60
HSS-1	PM (1)	0.24
	PM <sub>10</sub> (1)	0.12
HS-1	PM (1)	0.24
	PM <sub>10</sub> (1)	0.12
PPU-1	PM (1)	.24
	PM <sub>10</sub> (1)	.12
	VOM (2)	5.39

(1) From EPA 450/4-90/003 (AIRS).

(2) Site specific emission factor derived by the Permittee from VOM content of material used.

(Emissions) = [(Emissions Factor) x (Tons of Sand)]

<u>Emission Unit</u>	<u>Pollutant</u>	<u>Emission Factor (lbs/mmscf)</u>
DO-1	NO <sub>x</sub> (3)	100
	CO (3)	84
	PM (3)	7.6
	VOM (3)	5.5
DO-2	NO <sub>x</sub> (3)	100
	CO (3)	84
	PM (3)	7.6
	VOM (3)	5.5

(3) AP-42, small boilers ( < 100 mmBtu/hr), Tables 1.4-1 and 1.4-2, AP-42, March 1998.

(Emissions) = [(Emissions Factor) x (Natural Gas usage, mmscf)]

<u>Emission Unit</u>	<u>Pollutant</u>	<u>Emission Factor (lbs/lb Material)</u>
CBC-1	VOM (2)	0.9

(2) Site specific emission factor derived by the Permittee from VOM content of material used.

(Emissions) = [(Emissions Factor) x (Pounds of Material)]

7.5 Group No. 5 Sand Handling  
Control See Individual Equipment of Condition 7.5.2

#### 7.5.1 Description

Spent sand collected from the mold dump and shakeout is processed through a lump breaker (SS-1) where large lumps of mold sand and core butts are broken down prior to primary and secondary screening (SS-2 and SS-3). Primary and secondary screening processes remove the remaining large lumps of mold sand and core butts. The lump breaker, primary and secondary screening units, are controlled by a baghouse (BH-4). The waste sand is transported off-site for disposal. The return sand (screened sand) is conveyed by the sand moving system (RSC-1) to one of three identical return sand storage silos (RSS-1) for temporary storage. A single baghouse (BH-3) controls PM emissions from the three return sand storage silos.

Return sand from the return sand storage silos is sent either to the sand reclaimer or a foundry sand muller for further processing. The sand reclaimer (REC-1) processes and removes the finer sized particles resulting from degradation of the sand due to abrasion and clay binders previously added to the sand. A process cyclone separator (CYC-1) is used to remove large particles from the return sand and is not considered an air pollution control device. PM emissions from the sand reclaimer are controlled by a baghouse (BH-9). Reclaimed sand is temporarily stored in the reclaimed sand storage unit (REC-2) equipped with a dust arrestor prior to being mixed with water, bentonite, and cereal flour in a sand muller (SM-2). The muller exhaust is controlled for PM by a Roto-Clone wet scrubber (RO-2).

Foundry sand muller (SM-1) processes the balance of the unreclaimed sand from the return sand storage silos. Here, new sand from the new sand hopper (NSH-1) is added to the return sand along with water, bentonite clay, and cereal flour. The cereal flour acts as a binder which adds molding properties to the sand mixture. The sand mixture is mechanically mixed into "prepared sand". The new sand storage hopper and reclaimed sand storage unit are equipped with dust arrestors to control emissions during filling. PM emissions from the foundry sand muller are also routed to the Roto-Clone wet scrubber (RO-2). The prepared sand mixture is conveyed by the sand conveyor system (SCS-1) to the mold assembly line (insignificant activity MAL-1) where it is deposited into molds. Mold assembly emissions are considered insignificant since the prepared sand is moist and has molding properties. Sand cores from the core department are also added as needed to the casting molds. The completed casting molds are

conveyed to the pouring department to receive molten metal.

#### 7.5.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
SS-1	Lump Breaker Screening	Baghouse BH-4
SS-2	Primary Sand Screening	Baghouse BH-4
SS-3	Secondary Sand Screening	Baghouse BH-4
RSC-1	Return Sand Conveying System	None
RSS-1	3 - Return Sand Silos	Baghouse BH-3
REC-1 and CYC-1	Sand Reclaimer with Process Cyclone Separator	Baghouse BH-9
SM-1	No. 1 Foundry Sand Muller	Roto-Clone Wet Scrubber RO-2
SM-2	No. 2 Foundry Sand Muller	Roto-Clone Wet Scrubber RO-2
SCS-1	Sand Conveying System	None

#### 7.5.3 Applicability Provisions and Applicable Regulations

- a. An "affected sand handling operation" is one of the process emission units/operations described in the table of Condition 7.5.2
- b. An affected sand handling operation is subject to the emission limits of Conditions 5.2.2(b) and 5.2.2(c).

#### 7.5.4 Non-Applicability of Regulations of Concern

This permit is issued based on an affected sand handling operation not being subject to the NSPS for Nonmetallic Mineral Processing Plants, 40 CFR Part 60, Subpart 000, because a nonmetallic mineral processing plant is defined in 40 CFR 60.671 to include crushing or grinding of nonmetallic minerals at a facility which is not performed at the location of an affected sand handling operation.

#### 7.5.5 Control Requirements/Work Practices/Production Limits

- a. Each individual affected sand handling operation is subject to the following material throughput limitations:

<u>Emission Unit</u>	<u>Sand Throughput</u>	
	<u>(tons/month)</u>	<u>(tons/year)</u>
SS-1	40,150	481,800
SS-2	40,150	481,800
SS-3	40,150	481,800
SM-1	40,346	484,155
SM-2	5,842	70,099



Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM and PM<sub>10</sub> emissions from an affected sand handling operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- b. The affected sand handling operation REC-1 is subject to the following material throughput limitations:

<u>Emission Unit</u>	<u>Sand Throughput</u>	
	<u>(tons/month)</u>	<u>(tons/year)</u>
REC-1	7,300	87,600

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1R].

The above limitations contain revisions to previously issued Permit 93120104. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. [T1R].

#### 7.5.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, individual affected sand handling operations are subject to the following:

- a. Emissions from the affected sand handling operations SS-1 and SS-2 shall not exceed the following limits:

<u>Pollutant</u>	<u>SS-1 Emissions</u>	
	<u>(lb/month)</u>	<u>(ton/year)</u>
PM	1,445	8.67
PM <sub>10</sub>	282	1.30
Lead	1	0.004

<u>Pollutant</u>	<u>SS-2 Emissions</u>	
	<u>(lb/month)</u>	<u>(ton/year)</u>
PM	1,445	8.67
PM <sub>10</sub>	282	1.30
Lead	1	0.004

These limits are based on the maximum production limits of Condition 7.5.5. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and Lead emissions from each individual affected sand handling operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- b. Emissions from the affected sand handling operation SS-3 shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(lb/month)</u>	<u>(ton/year)</u>
PM	1,445	8.67
PM <sub>10</sub>	282	1.30
Lead	0.7	0.004

These limits are based on the maximum production limits of Condition 7.5.5. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and Lead emissions from each individual affected sand handling operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- c. Emissions from the affected sand handling operation REC-1 shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(lb/month)</u>	<u>(ton/year)</u>
PM	263	1.58
PM <sub>10</sub>	40	0.24
Lead	0.1	0.0007

These limits are based on the maximum production limits of Condition 7.5.5. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1R].

The above limitations contain revisions to previously issued Permit 93120104. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the

information in the CAAPP application contains the most current and accurate information for the source. [T1R].

- d. Emissions from the affected sand handling operation SM-1 shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(lb/month)</u>	<u>(ton/year)</u>
PM	1,445	8.67
PM <sub>10</sub>	282	1.30
Lead	0.7	0.004

These limits are based on the maximum production limits of Condition 7.5.5. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and Lead emissions from each individual affected sand handling operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

- e. Emissions from SM-2 shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(lb/month)</u>	<u>(ton/year)</u>
PM	210	1.26
PM <sub>10</sub>	32	0.19
Lead	0.1	0.0006

These limits are based on the maximum production limits of Condition 7.5.5. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].

The above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21,

Prevention of Significant Deterioration (PSD). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the PM, PM<sub>10</sub>, and Lead emissions from each individual affected sand handling operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

#### 7.5.7 Testing Requirements

The Illinois EPA or USEPA may require the Permittee to test an affected sand handling operation, along with any capture and control system, at such reasonable times as may be specified by the Illinois EPA or USEPA and at the expense of the Permittee. All such tests shall be made by or conducted under the direction of a person qualified by training and/or experience in the field of air pollution testing. [35 IAC 201.282(a)]

- a. Upon request by the Illinois EPA or USEPA, the Permittee shall measure the emissions in the effluent stream of the exhaust from an affected sand handling operation for the pollutant(s) specified in the request. The following methods and procedures shall be used for the testing, unless another method is approved by the Illinois EPA or USEPA: Refer to 40 CFR 60, Appendix A for USEPA test methods for all pollutants except PM<sub>10</sub> which is found in 40 CFR 51, Appendix M.

Location of sample points	USEPA Method 1
Gas flow and velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
PM	USEPA Method 5
PM <sub>10</sub> *	USEPA Method 201 or 201A
Opacity	USEPA Method 9
Lead	USEPA Method 12

\* PM<sub>10</sub> may be measured by using Method 5 if assuming that all of the PM measured is PM<sub>10</sub>.

- b. The Illinois EPA and USEPA may have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA or USEPA, the Permittee shall provide, without charge to the Illinois EPA or USEPA, necessary holes in stacks or ducts and other safe and proper testing facilities,

including scaffolding, but excluding instruments and sensing devices, as may be necessary. [35 IAC 201.282(b)]

- c. Other testing requirements are found in the standard conditions of Section 8.

#### 7.5.8 Monitoring Requirements

The Permittee shall monitor the differential pressure across a baghouse or liquid level of a scrubber on an affected sand handling operation.

#### 7.5.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected sand handling operation to demonstrate compliance with Conditions 5.5.1, 7.5.3(b), 7.5.5, 7.5.6, 7.5.7, and 7.5.8, pursuant to Section 39.5(7)(b) of the Act:

- a. Total sand in tons per day and compiled each month.
- b. A daily log recording the hours of operation for an affected sand handling operation.
- c. A weekly log that includes but not limited to deviations from normal pressure drops across each baghouse or liquid level of a scrubber, maintenance activities, both scheduled and for repairs, etc.
- d. The results of any tests required by this permit.
- e. PM, PM<sub>10</sub>, and Lead emissions from each affected sand handling operation in pounds per month and tons per year.

#### 7.5.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of noncompliance of an affected sand handling operation with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

None

#### 7.5.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

#### 7.5.12 Compliance Procedures

- a. Compliance with the emission limitations of Conditions 7.5.3(b) by an affected sand handling operation is addressed by the monitoring in accordance with Condition 7.5.8, testing in accordance with Condition 7.5.7 and the recordkeeping required by Condition 7.5.9.
- b. Compliance with the throughput limitations of Conditions 7.5.6 by an affected sand handling operation is addressed by the recordkeeping required by Condition 7.5.9.
- c. To determine compliance with the emission limitations of Conditions 5.5.1 and the emission limits of Condition 7.5.6, the emissions from an affected sand handling operation shall be calculated by using the following emission factors:

	<u>Pollutant</u>	<u>Emission Factor (lbs/ton sand)</u>
SS-1	PM (1)	3.6
	PM <sub>10</sub> (1)	0.54
	Lead (2)	0.0017
SS-2	PM (1)	3.6
	PM <sub>10</sub> (1)	0.54
	Lead (2)	0.0017
SS-3	PM (1)	3.6
	PM <sub>10</sub> (1)	0.54
	Lead (2)	0.0017
RSC-1	PM (1)	3.6
	PM <sub>10</sub> (1)	0.54
	Lead (2)	0.0017
RSS-1	PM (1)	3.6
	PM <sub>10</sub> (1)	0.54
	Lead (2)	0.0017
REC-1 and CYC-1	PM (1)	3.6
	PM <sub>10</sub> (1)	0.54
	Lead (2)	0.0017
SM-1	PM (1)	3.6
	PM <sub>10</sub> (1)	0.54
	Lead (2)	0.0017

	<u>Pollutant</u>	<u>Emission Factor (lbs/ton sand)</u>
SM-2	PM (1)	3.6
	PM <sub>10</sub> (1)	0.54
	Lead (2)	0.0017
SCS-1	PM (1)	3.6
	PM <sub>10</sub> (1)	0.54
	Lead (2)	0.0017

(1) From EPA 450/4-90/003 (AIRS). Emission factors are uncontrolled where the capture efficiency is 95% for melting and 25% for tapping and the control efficiency is 99% for PM, PM<sub>10</sub> and lead.

(2) Based on 0.92% lead content in charge material

(Emissions) = [(Emissions Factor) x (Tons of Sand Processed) x (1 - Capture Efficiency)]  
+ [(Emissions Factor) x (Tons of Sand Processed) x (Capture Efficiency) x (1 - Control Efficiency)]



## 8.0 GENERAL PERMIT CONDITIONS

### 8.1 Permit Shield

Pursuant to Section 39.5(7)(j) of the Act, the Permittee has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit.

This permit shield does not extend to applicable requirements which are promulgated after October 29, 1999 (the date of issuance of the draft permit) unless this permit has been modified to reflect such new requirements.

### 8.2 Applicability of Title IV Requirements (Acid Deposition Control)

This source is not an affected source under Title IV of the CAA and is not subject to requirements pursuant to Title IV of the CAA.

### 8.3 Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement [Section 39.5(7)(o)(vii) of the Act].

### 8.4 Operational Flexibility/Anticipated Operating Scenarios

#### 8.4.1 Changes Specifically Addressed by Permit

Physical or operational changes specifically addressed by the Conditions of this permit that have been identified as not requiring Illinois EPA notification may be implemented without prior notice to the Illinois EPA.

#### 8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes without applying for or obtaining an amendment to this permit, provided that the changes do not constitute a modification under Title I of the CAA, emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change, and the Permittee provides written

notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change [Section 39.5(12)(a) of the Act]. This notice shall:

- a. Describe the physical or operational change;
- b. Identify the schedule for implementing the physical or operational change;
- c. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;
- d. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and
- e. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

#### 8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods. Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Condition 8.6.

#### 8.6 Reporting Requirements

##### 8.6.1 Monitoring Reports

A report summarizing required monitoring as specified in the conditions of this permit shall be submitted to the Air Compliance Section of the Illinois EPA every six months as follows [Section 39.5(7)(f) of the Act]:

<u>Monitoring Period</u>	<u>Report Due Date</u>
January - June	September 1
July - December	March 1

All instances of deviations from permit requirements must be clearly identified in such reports. All such reports shall be certified in accordance with Condition 9.9.

#### 8.6.2 Test Notifications

Unless otherwise specified elsewhere in this permit, a written test plan for any test required by this permit shall be submitted to the Illinois EPA for review at least 60 days prior to the testing pursuant to Section 39.5(7)(a) of the Act. The notification shall include at a minimum:

- a. The name and identification of the affected unit(s);
- b. The person(s) who will be performing sampling and analysis and their experience with similar tests;
- c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source and any control equipment will be determined;
- d. The specific determination of emissions and operation which are intended to be made, including sampling and monitoring locations;
- e. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods;
- f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and
- g. Any proposed use of an alternative test method, with detailed justification.

#### 8.6.3 Test Reports

Unless otherwise specified elsewhere in this permit, the results of any test required by this permit shall be submitted to the Illinois EPA within 60 days of completion of the testing. The test report shall include at a minimum [Section 39.5(7)(e)(i) of the Act]:

- a. The name and identification of the affected unit(s);
- b. The date and time of the sampling or measurements;
- c. The date any analyses were performed;
- d. The name of the company that performed the tests and/or analyses;

- e. The test and analytical methodologies used;
- f. The results of the tests including raw data, and/or analyses including sample calculations;
- g. The operating conditions at the time of the sampling or measurements; and
- h. The name of any relevant observers present including the testing company's representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

#### 8.6.4 Reporting Addresses

- a. The following addresses should be utilized for the submittal of reports, notifications, and renewals:
  - i. Illinois EPA - Air Compliance Section  
  
 Illinois Environmental Protection Agency  
 Bureau of Air  
 Compliance Section (MC 40)  
 P.O. Box 19276  
 Springfield, Illinois 62794-9276
  - ii. Illinois EPA - Air Regional Field Office  
  
 Illinois Environmental Protection Agency  
 Division of Air Pollution Control  
 Eisenhower Tower  
 1701 South First Avenue  
 Maywood, Illinois 60153
  - iii. Illinois EPA - Air Permit Section (MC 11)  
  
 Illinois Environmental Protection Agency  
 Division of Air Pollution Control  
 Permit Section  
 P.O. Box 19506  
 Springfield, Illinois 62794-9506
  - iv. USEPA Region 5 - Air Branch  
  
 USEPA (AR - 17J)  
 Air & Radiation Division  
 77 West Jackson Boulevard  
 Chicago, Illinois 60604
- b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.

#### 8.7 Obligation to Comply with Title I Requirements

Any term, condition, or requirement identified in this permit by T1, T1R, or T1N is established or revised pursuant to 35 IAC Part 203 or 40 CFR 52.21 ("Title I provisions") and incorporated into this permit pursuant to both Section 39.5 and Title I provisions. Notwithstanding the expiration date on the first page of this permit, the Title I conditions remain in effect pursuant to Title I provisions until the Illinois EPA deletes or revises them in accordance with Title I procedures.

## 9.0 STANDARD PERMIT CONDITIONS

### 9.1 Effect of Permit

9.1.1 The issuance of this permit does not release the Permittee from compliance with State and Federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or applicable ordinances, except as specifically stated in this permit and as allowed by law and rule [Section 39.5(7)(j)(iv) of the Act].

9.1.2 In particular, this permit does not alter or affect the following:

- a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;
- b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and
- d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

9.1.3 Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

### 9.2 General Obligations of Permittee

#### 9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

The Permittee shall meet applicable requirements that become effective during the permit term in a timely manner unless an alternate schedule for compliance with the applicable requirement is established.

#### 9.2.2 Duty to Maintain Equipment

The Permittee shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements.

#### 9.2.3 Duty to Cease Operation

No person shall cause, threaten or allow the continued operation of any emission unit during malfunction or breakdown of the emission unit or related air pollution control equipment if such operation would cause a violation of an applicable emission standard, regulatory requirement, ambient air quality standard or permit limitation unless such malfunction or breakdown is allowed by a permit condition [Section 39.5(6)(c) of the Act].

#### 9.2.4 Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated thereunder.

#### 9.2.5 Duty to Pay Fees

The Permittee must pay fees to the Illinois EPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto [Section 39.5(7)(o)(vi) of the Act]. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois 62794-9276.

### 9.3 Obligation to Allow Illinois EPA Surveillance

Upon presentation of proper credentials and other documents, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Section 39.5(7)(p)(ii) of the Act]:

- a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control

equipment), practices, or operations regulated or required under this permit;

- d. Sample or monitor any substances or parameters at any location:
  - i. At reasonable times, for the purposes of assuring permit compliance; or
  - ii. As otherwise authorized by the CAA, or the Act.
- e. Obtain and remove samples of any discharge or emission of pollutants; and
- f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source.

#### 9.4 Obligation to Comply With Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable local ordinances addressing subjects other than air pollution control.

#### 9.5 Liability

##### 9.5.1 Title

This permit shall not be considered as in any manner affecting the title of the premises upon which the permitted source is located.

##### 9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the sources.

##### 9.5.3 Structural Stability

This permit does not take into consideration or attest to the structural stability of any unit or part of the source.

##### 9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the source.



#### 9.5.5 Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege [Section 39.5(7)(o)(iv) of the Act].

### 9.6 Recordkeeping

#### 9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

#### 9.6.2 Records of Changes in Operation

A record shall be kept describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes [Section 39.5(12)(b)(iv) of the Act].

#### 9.6.3 Retention of Records

- a. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].
- b. Other records required by this permit shall be retained for a period of at least 5 years from the date of entry unless a longer period is specified by a particular permit provision.

### 9.7 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Compliance Section no later than May 1 of the following year, as required by 35 IAC Part 254.

### 9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance certifications shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by

permit condition. The compliance certifications shall be submitted to the Air Compliance Section, Air Regional Field Office, and USEPA Region 5 - Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

- a. The certification shall include the identification of each term or condition of this permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.
- b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.
- c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

#### 9.9 Certification

Any document (including reports) required to be submitted by this permit shall contain a certification by a responsible official of the Permittee that meets the requirements of Section 39.5(5) of the Act [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included as an attachment to this permit.

#### 9.10 Defense to Enforcement Actions

##### 9.10.1 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit [Section 39.5(7)(o)(ii) of the Act].

##### 9.10.2 Emergency Provision

- a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence:
  - i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency. Normally, an act of God such as lightning or flood is considered an emergency;

- ii. The permitted source was at the time being properly operated;
  - iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and
  - iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.
- b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations.

#### 9.11 Permanent Shutdown

This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

#### 9.12 Reopening and Reissuing Permit for Cause

##### 9.12.1 Permit Actions

This permit may be modified, reopened, and reissued, for cause pursuant to Section 39.5(15) of the Act. The filing of a request by the Permittee for a permit modification, revocation, and reissuance, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition [Section 39.5(7)(o)(iii) of the Act].

##### 9.12.2 Reopening and Revision

This permit must be reopened and revised if any of the following occur [Section 39.5(15)(a) of the Act]:

- a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit;
- b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program;
- c. The Illinois EPA or USEPA determines that this permit contains a material mistake or inaccurate statement when establishing the emission standards or limitations, or other terms or conditions of this permit; and
- d. The Illinois EPA or USEPA determines that this permit must be revised to ensure compliance with the applicable requirements of the Act.

#### 9.12.3 Inaccurate Application

The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation under Section 39.5(15)(b) of the Act.

#### 9.12.4 Duty to Provide Information

The Permittee shall furnish to the Illinois EPA, within a reasonable time specified by the Illinois EPA any information that the Illinois EPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Illinois EPA copies of records required to be kept by this permit, or for information claimed to be confidential, the Permittee may furnish such records directly to USEPA along with a claim of confidentiality [Section 39.5(7)(o)(v) of the Act].

#### 9.13 Severability Clause

The provisions of this permit are severable, and should any one or more be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected. The rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force [Section 39.5(7)(i) of the Act].

#### 9.14 Permit Expiration and Renewal

The right to operate terminates on the expiration date unless the Permittee has submitted a timely and complete renewal application. For a renewal to be timely it must be submitted no later than 9 and no sooner than 12 months prior to expiration. The equipment may continue to operate during the renewal period until final action is taken by the Illinois EPA, in accordance with the original permit conditions [Section 39.5(5)(1), (n), and (o) of the Act].

## 10.0 ATTACHMENTS

### 10.1 Attachment 1 Summary of Emission Units

TABLE 1-1

Group	Emission Unit	Description	Date Constructed	Emission Control Equipment
No.1 Electric Arc Furnace	RMH-1	EAf Charging	1967	None
	EAf-1	EAf Melting	1967	BH-1 and BH-2
	TAP-1	EAf Tapping	1967	CAN-1
No. 2 Steel Casting	P-1	Steel Casting/Pouring	Pre-1972	None
	C-1	Steel Casting Cooling	Pre-1980	None
	SO-1	Steel Casting Shakeouts	1959	Multiventuri Scrubber
	SO-2	Steel Casting Shakeouts	1959	Multiventuri Scrubber
No. 3 Finishing	SB-1	Shotblast	1984	Baghouse BH-8
	RB-1	Rotoblast	1980	Baghouse BH-5
No. 4 Coremaking	KPU-1	Kloster Phenolic Urethane No-bake	1992	None
	ECT-1	Ecolotec 411 Low Phenolic No-bake	1994	None
	WBC-1	Warm Box Furan System	1983	None
	CO2-1	CO <sub>2</sub> Sodium Silicate System	1968	None
	HBC-1	Hot Box Low Phenolic No-bake	1986	None
	HS-1	Hevi-Sand Muller	1976	None
	DO-1	Drying Oven	1974	None
	DO-2	Drying Oven	1975	None
	CW-1	Core Washing	Pre 1972	None
	CBC-1	Core Box Coating	Pre 1972	None

Group	Emission Unit	Description	Date Constructed	Emission Control Equipment
No. 5 Sand Handling	SS-1	Lump Breaker Screening	1977	Baghouse BH-4
	SS-2	Primary Sand Screening	1983	Baghouse BH-4
	SS-3	Secondary Sand Screening	1993	Baghouse BH-4
	RSC-1	Return Sand Conveying System	Pre-1972	None
	RSS-1	3 - Return Sand Silos	1975	Baghouse BH-3
	REC-1 and CYC-1	Sand Reclaimer with Process Cyclone Separator	1994	Baghouse BH-9
	SM-1	No. 1 Foundry Sand Muller	1983	Roto-Clone Wet Scrubber RO-2
	SM-2	No. 2 Foundry Sand Muller	1983	Roto-Clone Wet Scrubber RO-2
	SCS-1	Sand Conveying System	Pre-1972	None

10.2 Attachment 2 - Example Certification by a Responsible Official

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Official Title: \_\_\_\_\_

Telephone No.: \_\_\_\_\_

Date Signed: \_\_\_\_\_

MJK:psj